



**Energy Procurement**  
Renewable Energy  
Development  
245 Market Street, Room 1309  
San Francisco, CA 94105-1702

*Mailing Address*  
Mail Code N13W  
P. O. Box 770000  
San Francisco, CA 94177-0001

February 12, 2015

Ms. Michele Dermer  
EPA Region 9, WTR-9  
75 Hawthorne St.  
San Francisco, CA 94105

RE: Submittal of Oxygen-Depleted Air Analytical Results  
Permit No. R9UIC-CA5-FY13-1  
PG&E Test Injection/Withdrawal Well 1  
King Island, San Joaquin County, California

Dear Michele:

This submittal is intended to comply with Part II.D.5.b of EPA Permit No. R9UIC-CA5-FY13-1 for the PG&E Test Injection/Withdrawal Well 1. Enclosed you will find the following:

- Laboratory analytical results of the oxygen-depleted air sample, collected from the I/W well prior to injection operations

If you have any questions regarding this submittal or require additional information, please feel free to contact me at (415) 973-6270.

Sincerely,

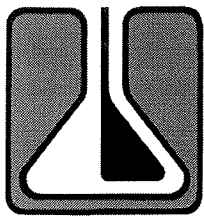
A handwritten signature in blue ink, appearing to read 'Mike Medeiros', is located below the 'Sincerely,' text.

Mike Medeiros  
Manager, Renewable Energy Development

Enclosures:

- (1) Laboratory analytical results from the oxygen-depleted air sample, collected from the I/W well prior to injection

Laboratory Analytical Results from the Oxygen-Depleted Air  
Sample, Collected from the I/W Well Prior to Injection



ZALCO LABORATORIES, INC.

Analytical & Consulting Services

4309 Armour Avenue  
Bakersfield, California 93308

(661) 395-0539  
FAX (661) 395-3069

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February 12, 2015

Mike Medeiros  
PG & E  
P.O. Box 770000  
San Francisco, CA 94177-001

TEL: (661) 321-4556  
FAX: (661) 872-5119

Project ID: Master  
RE: 1502137

Dear Mike Medeiros:

Zalco Laboratories, Inc. received 1 samples on 2/11/2015 for the analyses presented in the following report.

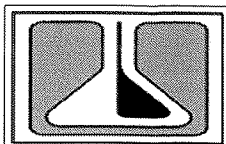
We appreciate your business and look forward to serving you in the future. Please feel free to call our office if you have any questions regarding these test results.

Sincerely,

Juan Magana  
Project Manager  
CC:

NSS: Non Sufficient Sample H: Exceeds Analysis Hold Time TTLC: Total Threshold Limit Concentration STLC: Soluble Threshold Limit Concentration TCLP: Toxicity Characteristic Leaching Procedure MCL: Maximum Contaminant Level \*: See Case Narrative  
The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Note: Samples analyzed for regulatory purposes should be put on ice immediately after sampling and received by the laboratory at temperatures between 0-6°C. Microbiological analysis requires samples to be at least 4-10°C when received at the laboratory. For additional information regarding the limitations of the method(s) referred to, please call us at 661-395-0539.

**ZALCO LABORATORIES, INC.**

4309 Armour Avenue, Bakersfield, CA 93308 (661) 395-0539 FAX (661) 395-3069 www.zalcolabs.com

2186 Eastman Avenue, Suite 103, Ventura, CA 93003 (805) 477-0114 FAX (805) 477-0125

Pacific Gas & Electric Co.  
P.O. Box 770000  
San Francisco CA 94177-0001

Laboratory No: 1502137-01  
Date Received: 02/11/15  
Date Analyzed: 02/12/15  
Date Completed: 2/12/15 11:44 AM

Attention: Mike Medeiros

Sample Description: I/W Wellhead - Primary  
Sampled: 2/11/2015 @ 11:55:00 AM by Charles Tyler

**Chromatographic Analysis, ASTM D-1945-03, ASTM D-3588-98, GPA 2145-09, ASTM D-3246-11**

Constituent:	Mole %	Vol%	Weight %	GPM	Fractions	CHONS%
Oxygen	3.823	3.118	4.343	(Gallons per 1000.000 cubic feet)		Carbon, C 0.00
Nitrogen	96.177	96.882	95.657			
Hydrogen	0.000	0.000	0.000			Hydrogen, H 0.00
Carbon Dioxide	0.000	0.000	0.000			
Carbon Monoxide	0.000	0.000	0.000			
Hydrogen Sulfide	0.000	0.000	0.000			Oxygen, O 4.34
Methane	0.000	0.000	0.000	0.0000	C1+ = 0.0000	
Ethane	0.000	0.000	0.000	0.0000	C2+ = 0.0000	
Propane	0.000	0.000	0.000	0.0000	C3+ = 0.0000	Nitrogen, N 95.66
IsoButane	0.000	0.000	0.000	0.0000	C4+ = 0.0000	
n-Butane	0.000	0.000	0.000	0.0000	C4+ = 0.0000	
IsoPentane	0.000	0.000	0.000	0.0000	C5+ = 0.0000	Sulfur, S 0.00
n-Pentane	0.000	0.000	0.000	0.0000	C5+ = 0.0000	
Hexanes	0.000	0.000	0.000	0.0000	C6+ = 0.0000	
Totals:	100.00	100.00	100.00	0.0000		100.00

Flammable Gases:	0.000	
Gas Properties calculated @ STP: degrees F.	60	
Measurement Base Pressure @ STP: psia	14.696	H/C Ratio: #DIV/0!

Gas State	Dry		Wet
	Btu / Cu. Ft	Btu / lb	Btu / Cu. Ft
Gross, Ideal Gas	0.00	0.00	0.00
Net, Ideal Gas	0.00	0.00	0.00
Gross, Real Gas	0.00		0.00
Net, Real Gas	0.00		0.00

Relative Gas Density; [Air=1] Ideal: 0.9725  
Specific Gravity, [Air=1] Real gas: 0.9722  
Real Gas Density, Lb/Cu.Ft.: 0.0742  
Specific Volume, Cu.Ft./Lb: 13.4692  
Relative Liquid Density @ 60F/60F: 0.8198  
Compressibility, 'z': 0.9997  
Fuel kg per kg-mole Molecular wt avg 28.166

#1

RUSH!

RUSH!

RUSH!!



ZALCO LABORATORIES, INC.

CHAIN OF CUSTODY, ID# CAES #001

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Zalco Lab #

Client PO #

REPORT INFO		INVOICE INFO		ANALYSIS	
Client: Pacific Gas & Electric Co.	Invoice To: Same as Client	Address: P.O. Box 7760	City, State, Zip: San Francisco, CA 94120-7760	Attention: Accounts Payable	Phone: 415-973-6270
Address: P.O. Box 770000	City, State, Zip: San Francisco, CA 94177-0001	Attention: Mike Medeiros	Phone: 415-973-6270	Fax: Results [ ]	Email: Results [ ]
SAMPLED BY: Charles Tyler		EMPLOYED BY: BES			
Sample No.	Sample Description	Date	Time	Type	
1	I/W Wellhead - Primary	2-11-15	11:55	G	
2	I/W Wellhead - Duplicate	2-11-15	11:58	G	

PROJECT ID:

QUOTE ID:

COMMENTS:

Turnaround Time:

Routine working days [ ]

Rush By 18hrs. working days

Send Copy to State of CA?

Yes [ ] No [X]

Attention To: Mark Auburn

Send Copy to County?

Yes [ ] No [X]

County

Send Results to:

mausburn@gmail.com

cstinson@csenergyventures.com

Note: If primary sample indicate > 5.0% O<sub>2</sub>, please call Charlie Stinson 503-307-6654 for further direction

RELINQUISHED By: Signature	PRINT	COMPANY	Date	Time	RECEIVED By: Signature	PRINT
Charles Tyler	Charles Tyler	Bluewater	2/11/15	12:19	KD 20	K Springman
			2/11/15	16:50		

NOTE: Samples are discarded 30 days after results unless other arrangements are made. Hazardous samples will be returned to client or disposed of at the client's expense.

\*Sample Type Key: AQ-Aqueous; BS-Biosolid; DW-Drinking Water; GW-Ground Water; G-Gas; LPG-Liquid Petroleum Gas; OL-Oil; O-Other; P-Petroleum; S-Soil/Solid; ST-Storm Water; WW-Wastewater

\*Sample No.: FOR OFFICE USE ONLY